

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-12, 14-19, 21-26, 28, and 29, rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,798,461 to Banta, Jr.

Regarding Claims 1-4, 6-12, 14-19, 21-26, 28, and 29, Banta teaches an ultrasonic imaging apparatus comprising: an ultrasonic probe; a plurality of acoustic elements configured and arranged to form a two-dimensional array, said two-dimensional array configured and adapted to fit within the ultrasonic probe wherein said plurality of acoustic elements includes at least one active acoustic element capable of generating an acoustic pulse and/or receiving an echo signal (Abstract, Claim 1 and Fig. 1b, and Fig. 3); and a beam controller coupled to said two-dimensional array, said beam controller capable of driving the at least one active acoustic element to produce said acoustic pulse for impinging an acoustic target to generate at least one echo signal, and having associated circuitry capable of controlling directional movement of said acoustic pulse by tractor treading. (Abstract, Claim 1 and Fig. 1b, and Fig. 3)

Regarding Claims 4, 6, 7, 12, 14, 15, 19, 21, 22, 26, 28, and 29 Banta teaches the use of planar and convex transducer array configuration. (Figs. 1, 2, and 6)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 13, 20, and 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Banta in view of U. S. Patent No. 5,938,612 to Kline-Schroder et al. (Kline)

Regarding Claims 5, 13, 20, and 27 Banta teaches all of the above claimed limitations but does not expressly teach the use of cylindrical transducer array configuration.

Kline teaches the use of cylindrical transducer array configuration.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Banta with a cylindrical transducer array configuration as taught by Kline since such a setup would result in a transducer array that could be inserted into blood vessels and inter-cavity tubes. (Col. 11 lines 59-65)

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SANJAY CATTUNGAL whose telephone number is (571)272-1306. The examiner can normally be reached on 9:30 - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian L Casler/  
Supervisory Patent Examiner, Art  
Unit 3737

SPC